

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:_____

1. (original) A machine for making bubbles comprising:

2 a housing;

a fan operatively coupled to said housing;

4 a bubble loop oriented in a substantially horizontal plane and subject to
air blown in a substantially vertical direction from said fan, said bubble loop
6 including a structural element in the form of a ring surrounding an open air
passageway and a channel adapted to contain liquid bubble solution, said
8 channel capable of delivering liquid bubble solution all the way around said
bubble loop;

10 a liquid bubble solution supply supplying said bubble loop with bubble
solution; and

12 a membrane-forming member forming liquid bubble solution membrane
across said air passageway of said bubble loop.

2. (original) The machine for making bubbles of Claim 1 wherein:

2 said liquid bubble solution supply including an inverted bottle type fluid
delivery system adapted to maintain a fluid level such that liquid bubble solution
4 is supplied to but does not overflow said channel in said bubble loop during
normal use.

3. (original) The machine for making bubbles of Claim 2 wherein:

2 said inverted bottle type fluid delivery system comprises a removable
bottle adapted to contain liquid bubble solution.

4. (original) The machine for making bubbles of Claim 3 wherein:

2 said inverted bottle type fluid delivery system further comprises a cap
and valve assembly attached to said bottle and a projection connected to said
4 housing configured such that while said bottle is separated from the rest of said
machine for making bubbles, said cap and valve assembly seals said bottle and
6 while said bottle is properly installed, said projection causes said valve to open
thereby allowing liquid bubble solution to exit said bottle and air to enter.

5. (original) The machine for making bubbles of Claim 3 further comprising:

2 a float-activated on/off switch including a float, said float-activated
on/off switch configured in such a way that while said bottle is properly
4 installed and said bottle contains more than a minimum amount of liquid bubble
solution said float floats on liquid bubble solution supplied by said bottle and
6 causes said on/off switch to be in the "on" state.

6. (original) The machine for making bubbles of Claim 5 wherein:

2 said float-activated on/off switch comprises a permanent magnet and a
magnetic reed switch.

7. (original) The machine for making bubbles of Claim 5 further comprising:

a tilt switch, said tilt switch preventing said fan from operating while
said machine for making bubbles is not in a substantially upright orientation.

8. (original) The machine for making bubbles of Claim 6 wherein:

said machine for making bubbles may be disassembled into a first part
including said permanent magnet and a second part including said magnetic reed
switch.

9. (original) The machine for making bubbles of Claim 8 further comprising:

an assembly switch, said assembly switch preventing said fan from
operating while said machine for making bubbles is in a disassembled state.

10. (original) The machine for making bubbles of Claim 1 wherein:

said membrane-forming member is powered by air pressure from said
fan.

11. (original) The machine for making bubbles of Claim 10 further comprising:

a controller, said controller having a first state in which power is not
supplied to said fan and a second state in which power is supplied to said fan,
said controller being capable of operating in a cyclic manner alternating between
said first state and said second state.

12. (original) The machine for making bubbles of Claim 11 wherein:

an initial first state after said machine for making bubbles is turned on is
sufficient in duration to allow said liquid bubble solution supply to supply liquid
bubble solution to said bubble loop; and

durations of said second states and said first states subsequent to said
initial first state are sufficient to allow said membrane-forming member to form
a membrane across said air passageway .

13. (original) The machine for making bubbles of Claim 1 wherein:

said membrane-forming member includes a pull-away member
configured to contact liquid bubble solution within said channel so that as said
pull-away member is pulled away from said channel, a tubular film of liquid
bubble solution is drawn from said channel which, upon reaching a certain
length, naturally pinches off to form a closed membrane across said air
passageway of said bubble loop.

14. (original) The machine for making bubbles of Claim 13, wherein said membrane-
forming member further comprises:

a hinged flap coupled to said pull-away member, said hinged flap subject
to air blown from said fan, said hinged flap being biased toward a first closed
position while said fan is off and biased toward a second open position while
said fan is on; whereby

said pull-away member may contact liquid bubble solution in said
channel while said hinged flap is in said first closed position.

15. (currently amended) A bubble solution supply system for a machine that makes
bubbles, the machine having a housing and a channel supplying a bubble loop with
bubble solution, the bubble solution supply system comprising:

~~an~~ a valveless inverted bottle type fluid delivery system adapted to
automatically maintain a fluid level such that liquid bubble solution does not
overflow the channel during normal use, said fluid delivery system including a
liquid bubble solution container, said fluid delivery system restricting air flow to
said container to prevent excessive outflow of liquid bubble solution from said
container.

16. (original) The bubble solution supply system of Claim 15 wherein:

said inverted bottle type fluid delivery system comprises a removable
bottle adapted to contain liquid bubble solution.

17. (original) The bubble solution supply system of Claim 16 wherein:

said inverted bottle type fluid delivery system further comprises a cap
and valve assembly attached to said bottle and a projection coupled to the
housing configured in such a way that when said bottle is separated from the rest
of said machine for making bubbles, said cap and valve assembly seals said

6 bottle and when said bottle is properly installed, said projection causes said
valve to open thereby allowing liquid bubble solution to exit said bottle and air
8 to enter.

18. (original) The bubble solution supply system of Claim 16 further comprising:
2 a float-activated on/off switch configured in such a way that while said
bottle is properly installed and said bottle contains more than a minimum
4 amount of liquid bubble solution, said float causes said on/off switch to be in an
“on” state.

19. (original) The bubble solution supply system of Claim 18 wherein:
2 said on/off switch comprises a permanent magnet and a magnetic reed
switch.

20. (currently amended) A membrane-forming member for forming liquid bubble solution
2 membranes across an air passageway of a bubble loop, wherein said membrane-forming
member is powered by air pressure from a fan blowing air through said air passageway
4 and is adapted to intermittently engage said bubble loop due to said air pressure from
said fan.

21. (original) The membrane-forming member of Claim 20, further comprising:
2 a controller operatively coupled to the membrane-forming member, said

controller having a first state in which power is not supplied to said fan and a
second state in which power is supplied to said fan, said controller being capable
of operating in a cyclic manner alternating between said first state and said
second state.

22. (original) The membrane-forming member of Claim 21 wherein:

an initial first state of said controller is sufficient in duration to allow
liquid bubble solution from a supply of liquid bubble solution to flow to the
bubble loop to supply initial liquid bubble solution to the bubble loop; and

a duration of said second states and said first states subsequent to said
initial first state are sufficient to allow the membrane-forming member to form a
membrane across the air passageway.

23. (original) A membrane-forming member for forming liquid bubble solution
membranes across an air passageway of a bubble loop having a channel holding liquid
bubble solution, comprising:

a pull-away member configured to contact liquid bubble solution within
the channel such that as said pull-away member is pulled away from the
channel, a tubular film of liquid bubble solution is drawn from the channel
which, upon reaching a certain length, naturally pinches off to form a closed
membrane across the air passageway of the bubble loop.

24. (original) The membrane-forming member of Claim 23, further comprising:

2 a hinged flap coupled to said pull-away member, said hinged flap
susceptible to air blown from a fan, said hinged flap being biased toward a first
4 closed position while said fan is off and biased toward a second open position
while said fan is on; whereby

6 said pull-away member is mounted on said hinged flap in such a way that
said pull-away member may contact liquid bubble solution in the channel while
8 said hinged flap is in said first closed position.

25. (original) A bubble-making machine for making bubbles vertically dispensed,
2 comprising:

a housing;

4 a fan operatively coupled to said housing for blowing air in an upward
direction;

6 a first bubble ring operatively positioned within said housing and being
superpositioned to said fan and subject to air blown by said fan;

8 a bubble solution supply coupled to said first bubble ring to supply said
first bubble ring with bubble solution; and

10 a membrane-forming ring intermittently engaging said first bubble ring
and said bubble solution to aid in formation of bubbles; whereby

12 bubbles may be formed in an ongoing manner by air traveling through
said first bubble ring.

26. (original) A bubble-making machine for making bubbles vertically dispensed as set
2 forth in Claim 25, further comprising:

4 said membrane-forming ring withdrawing from said first bubble ring
when said fan blows air.

27. (original) A machine for making bubbles as set forth in Claim 25, further
2 comprising:

4 a first hinged flap incorporating said membrane-forming ring, said first
hinged flap hingedly attached to said housing and pivotably retreating from said
first bubble ring and withdrawing said membrane-forming ring from said first
6 bubble ring when said fan blows air through said first bubble ring.

28. (original) A machine for making bubbles as set forth in Claim 27, further
2 comprising:

4 said hinged flap pivotably opening to a predetermined angle when
subjected to air blown by said fan, said predetermined angle aiding in carriage
of bubbles from said first bubble ring.

29. (original) A machine for making bubbles as set forth in Claim 25, further
2 comprising:

4 a controller, said controller coupled to and intermittently activating said
fan to control activity of said fan; whereby

said membrane-forming ring intermittently engages said first bubble ring
to ensure formation of a membrane from which bubbles may be continually
formed.

30. (original) A machine for making bubbles as set forth in Claim 29, said controller
further comprising:

a tip-over switch, said tip-over switch coupled to said fan and turning
said fan off when the machine for making bubbles strays from an approximately
upright position.

31. (original) A machine for making bubbles as set forth in Claim 29, said controller
further comprising:

an intermittent activation system coupled to and intermittently activating
said fan, said intermittent activation system intermittently ceasing operation of
said fan until said membrane-forming ring engages said first bubble ring to
ensure continual formation of bubbles.

32. (original) A machine for making bubbles as set forth in Claim 25, said bubble
solution supply further comprising:

a reservoir for holding bubble solution, said reservoir coupled to said
first bubble ring and providing a path for said bubble solution to said first
bubble ring.

33. (original) A machine for making bubbles as set forth in Claim 32, said bubble
2 solution supply further comprising:

a float cage present in said reservoir; and

4 a float restrained by said float cage and coupled to said fan, said float
activating said fan when floating in said reservoir.

34. (original) A machine for making bubbles as set forth in Claim 33, said bubble
2 solution supply further comprising:

a bottle, said bottle for holding bubble solution; and

4 a spring-biased lid threadably attachable to said bottle, said spring-biased
lid having a movable stopper panel for allowing egress of bubble solution to said
6 reservoir, said movable stopper panel urged to a closed state by a spring and
opened by said float cage when said bottle with said lid is turned upside-down
8 and placed into position about said float cage and above said reservoir; whereby

bubble solution may be continuously fed into said reservoir by said bottle
10 without overflow or spillage until a volume of bubble solution held by said
bottle is depleted and said float is floatably lifted by said bubble solution to
12 activate said fan.

35. (original) A machine for making bubbles as set forth in Claim 33, said float further
2 comprising:

a magnetic float.

36. (original) A machine for making bubbles as set forth in Claim 25, further
2 comprising:

said housing directing air blown by said fan to said first bubble ring and
4 preventing dispersion of said fan-blown air away from said first bubble ring.

37. (original) A machine for making bubbles as set forth in Claim 36, further
2 comprising:

a housing switch coupling said housing to said fan, said housing switch
4 preventing operation of said fan unless said housing is properly in place.

38. (original) A machine for making bubbles as set forth in Claim 37, further
2 comprising:

said housing coupled to said fan by a bayonet connection.

39. (original) A bubble-making machine for making bubbles vertically dispensed,
2 comprising:

a fan for blowing air in an upward direction;

4 a housing operatively coupled to said fan, said housing directing air
blown by said fan and preventing dispersion of said fan-blown air;

6 a first bubble ring operatively positioned within said housing and being
superpositioned to said fan and subject to air blown by said fan;

8 a bubble solution supply coupled to said first bubble ring to supply said

first bubble ring with bubble solution, said bubble solution supply including:

10 a reservoir for holding bubble solution, said reservoir coupled to said
first bubble ring and providing a path for said bubble solution to said first
12 bubble ring;

 a float cage present in said reservoir;

14 a magnetic float restrained by said float cage and coupled to said fan,
said magnetic float activating said fan when floating in said reservoir;

16 a container, said container for holding bubble solution; and

 a spring-biased lid threadably attachable to said container, said spring-
18 biased lid having a movable stopper panel for allowing egress of bubble solution
to said reservoir, said movable stopper panel urged to a closed state by a spring
20 and opened by said float cage when said container with said lid is turned upside-
down and placed into position about said float cage and above said reservoir;
22 whereby

 bubble solution may be limitedly but continuously fed into said reservoir
24 by said container without overflow or spillage until a volume of bubble solution
held by said container is depleted, said magnetic float floatably lifted by said
26 bubble solution to activate said fan;

 a membrane-forming ring, said membrane-forming ring initially
28 engaging said first bubble ring and said bubble solution, said membrane-forming
ring withdrawing from said first bubble ring when said fan blows air to aid in
30 formation of bubbles;

32 a first hinged flap incorporating said membrane-forming ring, said first
hinged flap hingedly attached to said housing and pivotably retreating from said
first bubble ring and withdrawing said membrane-forming ring from said first
34 bubble ring when said fan blows air through said first bubble ring, said hinged
flap pivotably opening to a predetermined angle when subjected to air blown by
36 said fan, said predetermined angle aiding in carriage of bubbles from said first
bubble ring;

38 a controller, said controller coupled to said housing and said reservoir,
said controller intermittently activating said fan to control activity of said fan so
40 that said membrane-forming ring intermittently engages said first bubble ring to
ensure formation of a membrane from which bubbles may be continually
42 formed, said controller comprising:

a tip-over switch, said tip-over switch coupled to said fan and turning
44 said fan off when the machine for making bubbles strays from an approximately
upright position;

46 an intermittent activation system coupled to and intermittently activating
said fan, said intermittent activation system intermittently ceasing operation of
48 said fan until said membrane-forming ring engages said first bubble ring to
ensure continual formation of bubbles;

50 a magnetic housing switch coupling said housing to said fan, said
magnetic housing switch preventing operation of said fan unless said housing is
52 properly in place; and

a magnetic float switch coupled to said magnetic float and coupled to
said fan, said magnetic float switch turning said fan off when said magnetic float
is not floating; whereby

said tip-over switch, said magnetic airflow channel switch, and said
magnetic float switch must all be on for said fan to activate and for bubbles to
be formed; whereby

bubbles may be formed in an ongoing manner by air traveling through
said first bubble ring upon provision of bubble solution to said reservoir.

40. (original) A machine for making bubbles, comprising:

a fan, said fan blowing air in an upward direction;

a first bubble ring subject to air blown by said fan; and

a retracting lip, said retracting lip engaging said first bubble ring, said
retracting lip withdrawing from said first bubble ring to aid in formation of
bubbles, said retracting lip withdrawing from said first bubble ring when said
first bubble ring is subjected to air blown by said fan; whereby

upon provision of bubble solution to said first bubble ring, bubbles may
be formed in an ongoing manner by air traveling through said first bubble ring.

41. (original) A machine for making bubbles as set forth in Claim 40, further
comprising:

a first hinged flap incorporating said retracting lip, said first hinged flap

4 retreating from said first bubble ring and withdrawing said retracting lip from
said first bubble ring when said fan blows air through said first bubble ring.

42. (original) A machine for making bubbles as set forth in Claim 41, said first hinged
2 flap further comprising:

 said hinged flap opening to a predetermined angle when subjected to air
4 blown by said fan, said predetermined angle aiding in carriage of bubbles from
said first bubble ring.

43. (original) A machine for making bubbles as set forth in Claim 40, further
2 comprising:

 said retracting lip being a membrane-forming ring.

44. (original) A machine for making bubbles as set forth in Claim 40, further
2 comprising:

 a controller, said controller coupled to and intermittently activating said
4 fan; whereby
 said retracting lip intermittently engages said first bubble ring to ensure
6 formation of a membrane from which bubbles may be formed.

45. (original) A machine for making bubbles as set forth in Claim 44, said controller
2 further comprising:

a tip-over switch, said tip-over switch coupled to said fan and turning
said fan off when the machine for making bubbles strays from an approximately
upright position.

46. (original) A machine for making bubbles as set forth in Claim 44, said controller
further comprising:

an intermittent activation system coupled to and intermittently activating
said fan, said intermittent activation system intermittently ceasing operation of
said fan until said retracting lip engages said first bubble ring to ensure
continual formation of bubbles.

47. (original) A machine for making bubbles as set forth in Claim 40, further
comprising:

a reservoir, said reservoir coupled to said first bubble ring and providing
a path for said bubble solution to said first bubble ring.

48. (original) A machine for making bubbles as set forth in Claim 47, further
comprising:

a float cage present in said reservoir; and
a float restrained by said float cage and coupled to said fan, said float
activating said fan when floating in said reservoir.

49. (original) A machine for making bubbles as set forth in Claim 48, said float further
2 comprising:

a magnetic float.

50. (original) A machine for making bubbles as set forth in Claim 40, further
2 comprising:

an airflow channel directing air blown by said fan to said first bubble
4 ring and preventing dispersion of said fan-blown air away from said first bubble
ring.

51. (original) A machine for making bubbles as set forth in Claim 50, further
2 comprising:

an airflow channel switch coupling said airflow channel to said fan, said
4 airflow channel switch preventing operation of said fan unless said airflow
channel is properly in place.

52. (original) A machine for making bubbles, comprising:

2 a fan, said fan for blowing air upwardly;

first and second bubble rings subject to air blown by said fan;

4 an airflow channel directing air blown by said fan to said first and
second bubble rings and preventing dispersion of said fan-blown air away from
6 said first and second bubble rings, said airflow channel having an airflow

channel magnet that enables activation of said fan when said airflow channel is properly in place;

first and second membrane-forming rings, said first membrane-forming ring engaging said first bubble ring and said second membrane-forming ring engaging said second bubble ring, said first and second membrane-forming rings respectively withdrawing from said first and second bubble rings to aid in formation of bubbles, said first and second membrane-forming ring respectively withdrawing from said first and second bubble rings when said first and second bubble rings are subject to air blown by said fan;

first and second hinged flaps coupled by first and second hinges to said airflow channel on opposite sides thereof, said first and second hinged flaps respectively incorporating said first and second membrane-forming rings, said first and second hinged flaps pivotably retreating from said first and second bubble rings and respectively removing said first and second membrane-forming rings from said first and second bubble rings when said fan blows air upon said first and second bubble rings, said first and second hinged flaps opening to a predetermined angle when subject to air blown by said fan, said predetermined angle aiding in carriage of bubbles away from said first and second bubble rings;

a controller, said controller coupled to and intermittently activating said fan so that said first and second membrane-forming rings intermittently engage said first and second bubble rings, respectively, to ensure formation of

membranes from which bubbles may be formed, said controller including:

30 a tip-over switch, said tip-over switch coupled to said fan and turning
said fan off when the machine for making bubbles strays from an approximately
32 upright position;

 an intermittent activation system coupled to and intermittently activating
34 said fan, said intermittent activation system intermittently ceasing operation of
said fan until said first and second membrane-forming rings respectively engage
36 said first and second bubble rings;

 a magnetic airflow channel switch coupled to said fan and turning said
38 fan off when said airflow channel switch is off; and

 a magnetic float switch coupled to said fan and turning said fan off when
40 said magnetic float switch is off; whereby

 said tip-over switch, said magnetic airflow channel switch, and said
42 magnetic float switch must all be on for said fan to activate;

 a reservoir, said reservoir coupled to said first and second bubble rings
44 by respective first and second paths for enabling respective bubble solution flow
to said first and second bubble rings, said reservoir having a float cage; and

46 a magnetic float restrained by said float cage and coupled to said fan,
said float activating said fan by turning on said magnetic float switch when
48 floating in said reservoir; whereby

 upon provision of bubble solution to said reservoir, bubbles may be
50 formed in an ongoing manner by air traveling through said first and second

bubble rings.

53. (original) A machine for making bubbles as set forth in Claim 52, further
comprising:

a bottle, said bottle for holding bubble solution; and

a spring-biased lid threadably attachable to said bottle, said spring-biased
lid having a movable stopper panel for allowing egress of bubble solution to said
reservoir, said movable stopper panel urged to a closed state by a spring and
opened by said float cage when said bottle with said lid is turned upside-down
and placed into position about said float cage and above said reservoir; whereby

bubble solution may be continuously fed into said reservoir by said bottle
without overflow or spillage until a volume of bubble solution held by said
bottle is depleted and said float is floatably lifted by said bubble solution to
activate said fan.